

had better let alone. I cannot conclude this short *resumé* without expressing my acknowledgement to Drs. Herbert Jones and H. Cecil Moore, medical officers of health, for the assistance given me in procuring the vital statistics which form the basis of this paper.

(¹) A paper read at a meeting of the South-Western Division, held at the Hereford Asylum on April 18th, 1907.

Clinical Notes and Cases.

A Case of Katatonia in a Congenital Deaf-mute. By HENRY DEVINE, M.B., B.S., M.R.C.P.(Lond.), Assistant Medical Officer, London County Asylum, Long-Grove.

THE patient, A. W—, is æt. 18. He was admitted to the Cane Hill Asylum on February 2nd, 1907.

The *family history* presents no special features of interest. The only evidence of neuropathic tendency was in an uncle on the maternal side, who suffered from a brief attack of melancholia subsequent to a fever. Both parents are alive and healthy.

The following *personal history* was obtained. He was born prematurely and was a congenital deaf-mute. Had always been healthy, and until now had shown no sign of mental disturbance. The temperament is described as sensitive, but affectionate and obedient. Having received special training he had acquired some skill in oral language, and could interpret speech if the words were pronounced slowly and the lip movements accentuated. He was intelligent and quick at acquiring knowledge, and besides reading a great deal manifested artistic tendencies, being able to draw and paint in water-colours. His chief amusements were chess and cricket. Latterly he had been apprenticed to a skilled trade, at which he was making considerable progress.

The *present illness* appears to have commenced about three weeks before admission. Sleep was disturbed, and he suffered from gastric disturbance and obstinate constipation. His disposition, which had hitherto been bright and cheerful, became gloomy and perturbed. He was apprehensive about religious matters, and told his parents that he was very sinful. By constantly brooding over some trifling act of disobedience he magnified it into a sin for which he could never obtain forgiveness. These morbid ideas of unworthiness were followed by severe convulsive attacks lasting about ten minutes. There was marked tonic spasm with opisthotonos. These were succeeded by violent and irrational conduct, in which he would roll about the floor, and he refused his food owing to a delusion that it had been poisoned. He became extremely resistive, attempted to strike himself, and was extravagant and incoherent in speech, religious phrases predominating in his deliria.

On *admission*.—The patient was tall and poorly nourished, but did not present any notable anthropological stigmata of degeneration. The temperature was 99·6° F., pulse 92, respirations 20. Knee-jerks active.

Pupils equal, dilated, reacting to light and accommodation. He was in a semi-stuporose state, with vacant expression, aimlessly resistive to examination, and with cold and cyanosed extremities. The limbs were rigid and resisted any change of position, but tended to remain in any unnatural posture in which they might be placed. He allowed himself to be fed.

February 3rd.—The stupor was followed by motor restlessness. At one time he would be crawling about the floor of his single room and attempting to extend his excursions on his hands and knees into the dormitory, and at others trying to climb the walls of the room. Sometimes this restless behaviour was varied by the assumption of ecstatic and enraptured poses, the limbs becoming rigid, head turned upwards, and hands in an attitude of prayer. He gave expression to no intelligible speech, but only meaningless and inarticulate noises. He was neglectful in habits.

February 4th.—Was still restless but able to be up, and it became apparent that he had the power of speech. He was interrogated by speech and writing, and seemed to comprehend what was said to him if the words were pronounced slowly with distinct lip movements. His own speech was of similar character, with no inflections of tone. He was quite deaf. The patient could give no account of himself. He was constantly saying, "Round and round and round," accompanying this expression with circular movements of the eyes and hands in a monotonous and stereotyped manner. His face seemed to express intense surprise.

February 7th.—Recognised his relatives and manifested some pleasure at their visit by a fixed and rigid smile, but showed no depth of emotional feeling. He still repeated monotonous and incoherent phrases of a more varied character, but conveying no real meaning. He took his food and slept well.

February 15th.—Somewhat more rational. When asked to describe his recent mental state he was able to express that he seemed to have been going round and round as if his eyes had been revolved, and thought he had seen the sun and moon, visiting the latter on an airship. His condition varied from day to day, and consciousness gradually became clearer. He recognised those about him, admitted that he had been ill, attended to the calls of nature, and took his food. Amnesia was only evident in respect to the period during which he had been the subject of acute mental disturbance. The speech was still, however, at times incoherent, and he would write similarly on paper. A typical example is as follows: "Pray to Jesus the earth is all right, be in time to save the earth, motor-cars in the heaven, I saw him at Maskelyne and Cook's."

On March 2nd a fresh and somewhat remarkable mental phase became evident. I observed him seated on a chair with back bent, arms by the sides, an abstracted, dreamy expression, and some nasal mucus escaping unheeded. There was marked *flexibilitas cerea*. He showed no impulses or spontaneous activity whatever, neither at this time nor during the remainder of his stay in the asylum. With one exception, which will be mentioned, he neither spoke nor moved of his own accord.

In spite of this he was highly responsive in an automatic way to imperative external influences. Such appeals produced the appropriate response and nothing more, this passive obedience in combination with the extreme *flexibilitas cerea* giving rise to some very striking manifestations. Thus, if during the progress of any activity, elicited by suggestion, he was suddenly told to stop, his attitude would remain fixed indefinitely in whatever position he might happen to be at the moment. So still and immovable would he be in such a pose that he looked more like a statue than a living man. This feature is sufficiently illustrated by the photographs. The former is taken at the conclusion of the act of writing. The pencil and paper were then slipped out of his hand, which in the second photograph can be seen to have remained in identically the same position as they are in the first.

Not only was such a condition apparent in the limbs but equally so in the facial muscles. Thus at the end of his replies to questions the mouth remained in that particular shape which it had assumed in pronouncing the last word. This was especially obvious, because in speaking he exaggerated the movements of the lips. To give an instance, if "yes" was his last word and no further questions were addressed to him, the lips would remain parted and the teeth almost approximated. If told to smile he remained smiling indefinitely. Asked to shake hands he held out his stiffly and kept it in that position. When told to walk to the door he at once obeyed, but remained there until some fresh activity was suggested to him. Even when his parents stood in front of him interrogating the attendant as to his progress he remained quite indifferent to, and unaroused by, their presence, until they appealed to him personally, when he at once became aware of their vicinity and smiled, remaining fixed in the new pose. Having thus responded to this perception he required further objective conditions to elicit any further response. Such were furnished by questions which they might address to him and to which he gave suitable, but monosyllabic, replies.

The following two observations which are recorded were suggested by Dr. Mott, to whom I was able to show this case :

He was given pencil and paper and told to sketch a fellow patient. Keeping his eyes fixed on the model he began to draw and quickly reproduced a representation of the face. The result was of necessity extremely crude seeing that he only looked at the model and not at the paper, but still the main features were delineated. It reminded one of the curious results obtained in the well-known game of drawing a pig with the eyes shut. Having completed an outline of the face he began to draw another over the original, not once lifting the pencil. At the end of fifteen minutes the net result of his artistic efforts is seen in the drawing A. Naturally it is apparently only a mass of meaningless lines. During the whole of this time he looked like one in a dream, and but for the movements of the wrist remained rigid and immobile. Towards the end the only signs of fatigue were some slight swaying of the body and watering of the eyes. There is no reason to suppose that he would have ceased until overcome by exhaustion, but the experiment was concluded by diverting his attention, when he turned his head, remaining fixed in the new pose. He was next told

to copy the geometrical figure B_1 . The result produced (B_2) illustrates his method better than the preceding, as the resemblance to the original is obvious, and he was stopped sooner in order to prevent the copy from being too confused for recognition.

He was unable to cope with complicating circumstances in ordinary routine activities. Thus, he was told to undress and go to bed. In his stiff, dreamy way he removed his clothes, but was at quite a loss to know how to proceed further as the bed-clothes had been purposely tucked in all round, and at the head of the bed they lay under the bolster and pillows instead of over them as is usual. It was not until the situation was demonstrated to him that he pulled the coverings down and got into the bed.

The only spontaneous activity he ever exhibited during this period was in response to the quasi-external stimuli from the bladder and rectum. To these he responded automatically and cleanly.

During this period his speech was in keeping with his limitation of activities.

He never ventured a remark spontaneously, his conversation being a correct, but reflex, response to questions. Such replies were always monosyllabic, and no associated ideas were aroused in his mind leading to any elaboration of speech or inquiries on his own account as is usual in ordinary conversation. After his reply he would sink again into complete immobility, apparently oblivious of his surroundings and interrogator. The following is characteristic of such a conversation :

"How are you?" "Quite well."

"Who am I?" "Doc-tor."

"What is this?" "Ther-mom-eter."

"When did you see your parents last?" "Sun-day"—after hesitation.

"What are you thinking about all day?" "Nothing," or sometimes, "Home, and father, and men."

At this period he denied all hallucinations or delusional ideas.

If told to write a letter, pencil and paper being put into his hand, he would continue writing until the sheet was filled and would then relapse into apathy, neither turning over the sheet nor asking for another. An example is given, and it contains phrases almost identical with those written on other occasions. The writing is quite different from his normal style, and it is seen to be childish and quite lacking in character. It is also noticeable that one word is joined on to the other as he scarcely ever lifted the pencil, and for the same reason the "t's" are uncrossed.

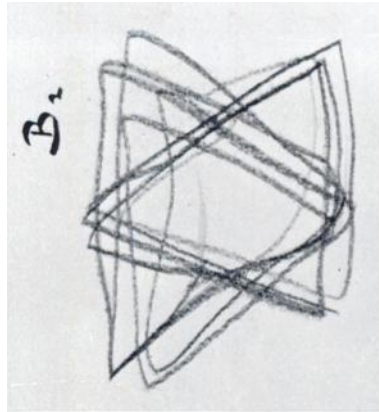
Physical examination showed the temperature to be invariably 98° F., with no evening rise. The pulse varied between 80 and 86 per minute. The pupils were dilated. Readings taken with surface thermometers showed the temperature of the skin to be much lowered over the extremities, which were markedly cyanosed. There was no loss of tactile sensation, but marked diminution of painful sensation. Taste and smell were disordered. He could not identify the taste of quinine, sugar, or dilute acetic acid, beyond stating that the quinine was not bitter but seemed different from the sugar. He was unable to distinguish the smell of cloves and peppermint, and experienced no disagreeable sensations from the smell of glacial acetic acid.

I want ye home I want to see father and
mother I love them Anderson I wish to be at
home now I hope doctor come to me
to let me leave here soon wanted to be free I wish to
be out now I hope to be over to mother
and mother soon I hope to see ~~mother~~

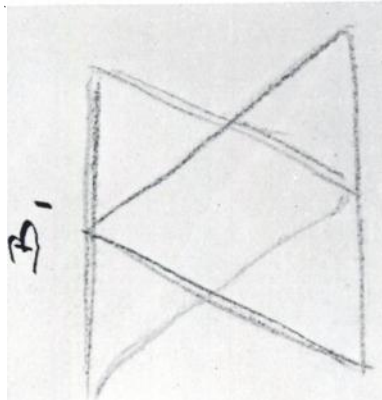
Facsimile of letter written by patient during cataleptic stage.

To illustrate Dr. H. Devine's paper.

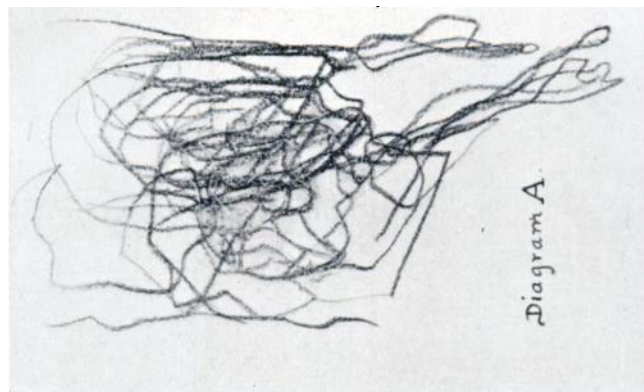
Adlard & Son, Imp.



The result produced.



Geometrical figure drawn for patient to copy.



Copy of drawing made by patient of a fellow patient's face.

To illustrate Dr. H. Devine's paper.

Adlard & Son, Impr.



Patient photographed after pencil and paper had been slipped out of his hands. The position of the fingers and hands is seen to be identical in each photograph.



Patient photographed at the conclusion of the act of writing.

To illustrate Dr. H. Devine's paper.

Adlard & Son, Impr.

In this cataleptic state he left the institution on March 31st under the care of his parents. Three weeks after this I was able to see the patient again in his own home. Beyond some slight nervousness he had completely regained his normal mental condition. He recognised me at once, and displayed with animation some photographs he had taken and developed at the seaside, from where he had just returned. Whilst there he had been out unaccompanied for hours together with his camera. He had completely forgotten the earlier periods of his illness, but was able to accurately describe many of his impressions and experiences during the cataleptic phase. Considering his apparent apathy it was somewhat striking to hear him speak of trifling details which he had observed, some of his remarks being penetrating and sarcastic. Thus he commented on my asking him to draw a patient who was attired in ordinary working costume, because I had said: "Sketch that gentleman." He seemed to consider it curious that such a term should be applied to one so roughly clad—an erroneous attitude not unusual in adolescence. He also expressed disapprobation of the crude methods which some patients adopted in eating their food. The catalepsy and lack of spontaneous activity had vanished shortly after leaving the institution.

Communication was, of course, somewhat irksome owing to the auditory defect which he had inherited, in fact, as I personally found it difficult to make him understand what I might say, my usual method of communication was by writing. With this exception he appeared to be a normal, animated lad, full of intelligent interests.

Remarks.

The case appears worthy of record owing to its occurrence in a congenital deaf-mute, and to the curious state of automatism and catalepsy which formed so prominent a mental phase. To employ the record of a single case as a pretext for reviewing the evolution of meaning which the term "katatonia" has undergone since its introduction by Kahlbaum would be out of place. Since, however, it has been the basis for so much discussion and so many shades of opinion have been expressed, it seems requisite to explain its use in the present instance. Seeing that various authorities differ so widely in their views it appears advisable to look on the concept katatonia as a convenient term by which to label a group of well-marked symptoms rather than the name of a special morbid entity. In this case the cardinal features of the katonian-symptom-complex were peculiarly well marked, hence the use of a word which expresses them most conveniently.

As such symptoms can evidently occur in widely divergent mental states, such as dementia præcox, senile insanity, epi-

lepsy, and hysteria, an attempt will be made to interpret their significance in the present instance and to discover their underlying basis. The original defect in the patient was auditory, and the mutism secondary to this had been to some extent remedied by careful training, as is not unusual in the cleverer congenital deaf-mutes. As will be suggested later this inherent deficiency probably has an important ætiological bearing on the acute mental disturbance from which he suffered. The cyclic course of the disease is well marked: the onset with gastric disturbance and melancholia, the stage of excitement, the cataleptic stage, and then sudden recovery. The earlier periods include many of the classical katatonic manifestations. Its chief features were psycho-motor agitation, convulsive attacks, multiple hallucinations, and fleeting delusions, stupor with rigidity or "waxy" muscular condition, negativism (refusal of food and senseless resistance), mutism, stereotypy, ecstatic poses, and personal neglect. The speech anomalies, always important in katatonia, have an added interest in a congenital deaf-mute. They may be included under the term "verbigeration," and were fully discussed in a paper by M. J. Nolan (1). It is not only the expression of mental confusion but is actually a disturbance of the speech centres with their associative connections, that is, a functional aphasia. It may be manifested by dumbness or a confused intermingling of words, often repeated again and again and quite out of keeping with the inflections of voice and emotional gestures which accompany them. Whereas speech in normal human beings has become mechanical, in a deaf-mute it is acquired with difficulty and would always require concentration and effort, factors rendering it more liable to disturbance. Thus there was first mutism in spite of emotional attitudes indicative of active though disordered ideation, then meaningless and incomprehensible sounds, and still later the constant repetition of one word with very striking motor accompaniments. Afterwards he began to speak in jumbled phrases, not toned, however, in the manner described by Nolan, since his voice had never acquired inflection of tone.

The cataleptic phase is especially interesting, and demands more detailed notice. Its chief features were loss of initiative and voluntary action, increased suggestibility, and a striking tendency to automatism manifested by the catalepsy and the continuous repetition of one series of movements. Such a

reduction of the personality to the status of a highly complex automaton is closely analogous to the lighter degrees of artificial somnambulism or hypnotism. In the more profound stages of hypnotism there is subsequent loss of memory for what has occurred, and also greater disorientation manifested by the acceptance of suggested hallucinations—phenomena which were absent in this case.

Apart from permanent dementia, which is here out of the question, in conditions of stupor or catalepsy consciousness may be in a state of dreamy reverie or even profound torpor, or else dominated by the presence of some absorbing idea. The latter (*melancholia attonita*) though frequently by no means easy to exclude, was evidently not the condition present in this case; on the contrary, an intense disturbance of the higher sensorimotor realms had been followed by exhaustion, which is represented by a passive and inert consciousness rather than one active and engrossed. If the patient had been intensely preoccupied by some delusional idea his features would have been expressive of some painful or ecstatic emotion, and he would have been irresponsive or possibly actively resistant to external influences, instead of which the face was vacant and devoid of even momentary expressions of emotion, and he showed passive obedience to vigorous solicitations from without. Again, the clues obtained by speech and writing reveal no predominant ideas, but simply ill-defined, almost subconscious yearnings for a more familiar and congenial environment indicative of a vague, dreamy, semi-depressed consciousness insufficient to stir him into any form of activity.

His view also of the environment was vague and impersonal. Apparently it appeared strange and unreal to him owing to some residue in his consciousness of the hallucinations which were prominent in the earlier stages. A remark made subsequently to his parents in reference to the cataleptic stage lends itself to such a view. He said that he felt as if he must close his eyes sometimes as the light in the asylum seemed so strange and confusing. While, therefore, he evidently perceived his environment, and was able afterwards to comment on what had occurred, he did not realise its relationship to himself unless aroused into activity by some directly personal appeal. Here, then, as in hypnosis, was a condition of narrowed consciousness which serves to explain the suggestibility and automatism.

“When in states of enfeebled initiative suggestibility appears, it does so, not as an added or accidental phenomenon, but as a natural consequence of the former. . . . When the independence of initiative is reduced towards complacency, and all assertiveness and resistance is exchanged for abeyance or passivity, the vacating thus induced opens the channels to any vigorous solicitations to which the mind may be exposed. With the normal initiative disabled or suspended the responsiveness to suggestion follows inevitably . . .” (2). Such a statement, though especially referring to hypnosis, applies to any condition, whether artificial or pathological, in which there is narrowing of consciousness.

It has been pointed out by W. R. Dawson that such a conscious state is the essential factor in katatonia, and that the various phenomena which occur are all dependent upon it (3), because if an idea of movement is present in consciousness with no opposing ideas and tendencies, the corresponding movement inevitably follows. In this case, therefore, since any idea which might be suggested from without would meet with no associated or contrary ideas necessitating deliberation and choice, it would remain isolated, as it were, in consciousness, and the appropriate train of activities would of necessity ensue. Thus arises the suggestibility. Furthermore an idea implanted in this way tends to persist and have a continued effect. Hence we have the various manifestations of automatism. In catalepsy the suggestion arises through the muscular sense, and the idea of position remains indefinitely until displaced by further suggestion. Similarly the continuous series of drawings, which was described, may be explained. The physical basis of such a conscious state must be functional inactivity of the higher cerebral centres analogous to the condition of the decerebrated frog. His activities, while not completely unconscious, were essentially reflex, mechanical, and lacking in intelligence. Only those elements of an activity which are normally subconsciously performed could be elicited, those elements indicative of a fuller consciousness giving it a purposive and intellectual character being entirely wanting, such want of higher cerebral control being especially obvious when the objective conditions guiding the perceptual activities were complicated in an unusual way.

In such a case some modification of routine procedures is

required in order that there may be suitable adaption to the new conditions. Thus when the bed-clothes were changed from their usual position merely automatic actions were useless; there was a need for an intelligent appreciation of the altered circumstances and an intelligent modification of conduct in accordance with them. Such conduct he was incapable of displaying.

The close relationship between katatonia and hysteria has been frequently noticed, and as regards this case the relationship would appear to be particularly close, in fact, it may be considered as a purely hysterical insanity.

Séglas and Chaslin (4), in an extensive review of the subject, commented on the hysterical nature of the symptoms, and Bevan Lewis (5), when referring to the cases described by Kahlbaum, expresses a similar opinion.

The predisposing cause is to be found in the congenital defect. While observing the patient in his own home, when he had regained his normal personality, it was impossible not to be struck with the relative isolation which he must experience. Since conversation with him could only be carried on with some effort it is inevitable that he would be only able to take a very partial place in collective social intercourse. Hence he sat turning over magazines or occupied with his own thoughts for the greater part of the time. Such a life must of necessity, even when surrounded by the closest friends, tend to be solitary and monotonous, leading to constant morbid introspection. The habit of day-dreaming and self-analysis, so frequent during adolescence, would be greatly intensified in one afflicted by congenital deafness. And thus the dawning instincts of sex, the widening view of life, the vague cravings and longings, instead of finding adequate expression, would only serve to make him realise, as he had never done before, his severe limitations and tinge his feelings and emotions with gloom. He would tend, therefore, to fall into that "hypnoid-state" which forms the soil for the various manifestations of hysteria (6). Under the influence of some shock, lowered state of bodily health, or, it may be, onanism, the nervous system—probably congenitally unstable as he was born prematurely—would break down, and these repressed and subconscious emotions would rise into predominance and manifest themselves in some explosive manner such as an hysterical convulsion.

Viewing the case both from a psychological and clinical aspect its hysterical nature is equally manifest. Whatever symptoms may be especially prominent hysteria is essentially a psychic disorder. On the one hand, beyond some capriciousness and instability of character, its mental aspect may be obscured by some somatic abnormality, and on the other hand the mental symptoms may be so intense as to lead to grave disorders of conduct, bringing the case under the category of hysterical insanity. Whatever the symptoms they are all the expression of a dissociated consciousness due to a want of harmony between higher and lower control centres, with the inhibitory control of the former in abeyance, an isolation, that is, of one portion from the other. On the physical side this may be manifested by general convulsions following some trivial excitation of the motor centres, and on the mental side by the exhibition of a personality a prey to an uncontrolled imagination and influenced by emotions and images which normally belong to the realm of the subconscious. There is more or less extensive loss of function in some portion of the cerebral muscle with increased potential of the rest. Such is observed in the later stages of this case when the higher intellectual attributes of the personality were wanting, showing loss of activity in the higher centres; with this was increased suggestibility the expression of increased potential in the lower.

The clinical symptoms of such dissociations are briefly characterised by their diversity and mobility, the presence of certain degenerative stigmata, and the rapidity by which the control of the normal personality is regained.

All these features were noticeable in the case of A. W—. The degenerative stigmata which are of great importance in the diagnosis of hysteria were manifested in the marked analgesia and the disorders of smell and taste. The sudden transition from depression to ecstasy, the half-hearted attempts at self-injury, the dominance of subconscious emotions, sexual, religious, and infantile, manifested so diversely by convulsions, stereotyped and enraptured poses, and the curious series of childish attitudes as he crawled about the floor, are all symptoms suggestive of hysteria. They resemble, indeed, in nature, if not in actual sequence, those cases of hystero-epilepsy described by Charcot.

The stage of catalepsy and automatism, with the apparent

apathy in respect to the environment in combination with a critical observance of trivial details, furnishes a clinical picture equally characteristic of hysteria.

Lastly, the sudden recovery, which was so remarkable a feature, tends to favour the view which has been advanced.

What physical conditions produced this alteration of cerebral functions will not be here discussed. Possibly it was due to nutritional changes the result of auto-intoxication or vasomotor spasm. It is hardly, however, to be expected that any demonstrable pathological lesion would be found in a case so essentially functional in all its features.

While somewhat accentuating the hysterical nature of these symptoms the ultimate prognosis of this case may still possibly be not altogether favourable. Kraepelin appears to insist that such symptoms are almost always followed by greater or lesser degrees of mental enfeeblement. To what extent such will be the case in this patient time alone will show. In a communication with the patient's father three months after discharge he said that his boy was back at his work and seemed quite well but for some slight want of continuous application and a readier fatigue than he had formerly manifested. Whether this weakness is temporary or permanent, or whether the whole mental disturbance is but an incident in a graver disorder leading to ultimate dementia, it is difficult to determine at present.

In conclusion I must express my thanks to Dr. Moody, the superintendent of the asylum, for permission to publish the details of this case.

REFERENCES.

- (1) "Is Katatonia a Special Form of Mental Disorder?" *Journal of Mental Science*, October, 1892.
 - (2) Joseph Jastrow, *The Subconscious*, fol. 501.
 - (3) W. R. Dawson, *Journal of Mental Science*, January, 1904.
 - (4) "Katatonia," *Brain*, vol. xii.
 - (5) *Text-Book of Mental Diseases*, fol. 272.
 - (6) J. J. Putman, *Journal of Abnormal Psychology*, April, 1906.
-